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| 10/730,954   | 12/09/2003  | Oliver Keren Ban     | AUS920030609US1               | 3697             |
| 25799  | 7590        | 03/25/2008           |                               |                  |
| IBM CORPORATION<br>PO BOX 12195<br>DEPT YXSA, BLDG 002<br>RESEARCH TRIANGLE PARK, NC 27709 |             |                      | EXAMINER<br>DIVECHIA, KAMAL B |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/730,954

**Applicant(s)**

BAN, OLIVER KEREN

**Examiner**

KAMAL B. DIVECHA

**Art Unit**

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 20031209
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

This Action is in response to application filed 12/09/03.

Claims 1-21 are pending and presented for examination.

**Information Disclosure Statement**

The information disclosure statement filed 12/09/03 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

**Specification**

The specification is objected under 37 CFR 1.75(d)(1) as failing to provide a support for the term "computer readable medium" as disclosed in claims 15 and 20.

**Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation “said routers”, “the destination router”, “said terminal router”, “said original plurality of headers”, “said packet”, “said terminal router” and “said receiving display station”. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites “said destination router”. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites “said routers”, “said set of routers”, “said determining means”, “said represented plurality of headers” “said router” and “the destination router”. There is insufficient antecedent basis for this limitation in the claim.

Claims 4-5 are rejected due to their dependency on one or more claims above.

Claims 6-21 are rejected for the same reasons as set forth in claims 1-5.

Please note the listing above is not intended to be exhaustive. The claims contain numerous amounts of 35 USC 112, 2<sup>nd</sup> paragraph errors. Applicant is advised to correct all the errors corresponding to the antecedent basis in response to this office action.

**Claim Rejections - 35 USC § 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-7 and 15-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claim 1 recites:**

In a communication network ... a system for expediting the transmission comprising:

means for...  
means for...  
means for...  
means for...  
means for...

The specification is evidenced to suggest “the means” to include the programs, i.e. computer code, listing, subroutine, algorithm, etc. For example: pg. 8 line 33 to pg. 9 lines 5.

As such, when the means are interpreted to include program(s) or code(s), the claim, as a whole, results in a program per se and/or software per se.

The software fails to fall into any of the four enumerated categories of 35 USC 101 because the software is neither a process, a machine because the claim lacks any essential physical elements, a manufacture because the claim lacks any physical medium, nor a composition of a matter. See MPEP 2106.01.

Claims 2-7 are rejected for the same reasons as set forth in claim 1.

**Claim 15 recites:**

A computer program having code recorded on a computer readable medium for... said program comprising:

means for...  
means for...  
means for...  
means for...  
means for...

Initially, the claim is clearly directed towards a non-statutory category of 35 USC 101, i.e. a computer program. The claim, as a whole, fails to fall into any of the four enumerated category of the patentable statutory subject matter as set forth above. The claim actually lacks the necessary physical articles/objects/elements/components to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter.

As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

[Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” Both types of “descriptive material” are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

Merely claiming nonfunctional descriptive material, i.e., abstract ideas stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make the claim statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer”).]

Secondly, since the specification fails to define the term “computer readable medium”, it is unclear whether the medium is limited to physical media and/or signals, carrier waves, etc.

In an event the term includes signals and/or carrier waves [i.e. transmission media], the claim is considered non-statutory for failing to fall into any of the four enumerated categories as set forth above.

Claims 16-21 are rejected for the same reasons as set forth in claim 15.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-21 are rejected under 35 U.S.C. 102(c) as anticipated by Eklund (US 7,058,728 B1).

As per claim 1, Eklund discloses in a communication network wherein packets of data are transmitted from a transmitting station to an addressed receiving station via a plurality of routers that determine the path of the transmission (fig. 4, fig. 8, fig. 13-14, col. 3 L30 to col. 4 L39), a system for expediting the transmission comprising:

means for transmitting packets, each comprising a payload section including the content data being transmitted, a header including the address of the receiving station and a plurality of other headers (col. 7 L25-65, col. 8 L25-57, fig. 1-3: data packet, fig. 4, fig. 8);

means for substituting a code item to represent said plurality of other headers in one of said packets being transmitted (col. 7 L7-65, col. 9 L7-67: i.e. means for compression);

means for determining which of said routers is the destination router to the receiving display station (col. 6 L37-58, col. 8 L36-57: by examining the destination IP address field);

means for providing conversion means to said terminal router for converting said code item back into said plurality of headers represented by said code items, whereby conversion

means convert said code item back into said original plurality of headers (col. 7 L7-56, col. 9 L6-67; means for decompression, fig. 4, fig. 8); and

means for transmitting said packet with original plurality of headers from said terminal router to said receiving display station (col. 7 L50-56, col. 9 L49-52).

As per claim 2, Eklund discloses the system wherein said means for providing said conversion means provide said conversion means to only said destination router (col. 6 L37-58, col. 8 L25-57, fig. 4, fig. 8: provides conversion to only the last or destination router).

As per claim 3, Eklund discloses the system wherein said means for providing said conversion means provide said conversion means to a set of said routers; and further including: means at each of said set of routers for determining if the header including the address of the receiving station indicates that the router is the destination router; and means responsive to said determining means for converting said code item through said conversion means back into said represented plurality of headers upon a determination that said router is the destination router (col. 7 L7-65, col. 8 L25 to col. 9 L62, fig. 4, fig. 8).

As per claim 4, Eklund discloses the system wherein the conversion means includes a conversion table (col. 9 L7-53, col. 7 L25-56: context table).

As per claim 5, Eklund discloses the system wherein said network is a packet switching network (col. 5 L56-66, fig. 13, fig. 14).

As per claim 6, Eklund discloses in a communication network wherein packets of data are transmitted from a transmitting station to an addressed receiving station via a plurality of routers that determine the path of the transmission (fig. 4, fig. 8, fig. 13-14, col. 3 L30 to col. 4 L39), a system for expediting the transmission comprising:



means for transmitting packets, each comprising a payload section including the content data being transmitted, a header including the address of the receiving station and a plurality of other headers (col. 7 L25-65, col. 8 L25-57, fig. 4, fig. 8);

means for substituting a code item to represent said plurality of other headers in one of said packets being transmitted (col. 7 L7-65, col. 9 L7-67: i.e. means for compression);

means for determining which of said routers is a last router beyond which normal transmission is expedited (col. 6 L37-58, col. 8 L36-57: by examining the destination IP address field);

means for providing conversion means to said last router for converting said code item back into said plurality of headers represented by said code items, whereby conversion means convert said code item back into said original plurality of headers (col. 7 L7-56, col. 9 L6-67: means for decompression, fig. 4, fig. 8); and

means for transmitting said packet with original plurality of headers from said last router to said receiving display station (col. 7 L50-56, col. 9 L49-52).

As per claim 7, Eklund discloses the system wherein said means for providing said conversion means provide said conversion means to only said last router (col. 6 L37-58, col. 8 L25-57, fig. 4, fig. 8: provides conversion to only the last or destination router).

As per claim 8-21, they do not teach or further define over the limitations in claims 1-7. Therefore claims 8-21 are rejected for the same reasons as set forth in claims 1-7.

*Additional References*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Birdwell et al., US 6,032,197: Data Packet Header Compression for unidirectional transmission.
- b. Le et al., US 6,542,931 B1: Using Sparse feedback to increase bandwidth efficiency in high delay, low bandwidth environment.
- c. Koodli, US 6,608,841 B1: System and Method for achieving robust IP/UDP/RTP Header compression in the presence of unreliable networks.
- d. Hamiti et al., US 6,751,209 B1: Header Compression in Real Time Service.
- e. Hata et al., US 6,889,261 B2: Method and Apparatus for header compression.
- f. Agarwal, US 6,963,570 B1: Method and Apparatus for Adaptive Loss-less compression of cell/packet headers.
- g. Hannu et al., US 6,999,429 B1: Access Technology integrated header compression.

**Conclusion**

Examiner's Remarks: The teachings of the prior art should not be restricted and/or limited to the citations by columns and line numbers, as specified in the rejection. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

In the case of amendments, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and support, for ascertaining the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is (571)272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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